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George J. Miller, *Editor*

The JOURNAL *of* GEOGRAPHY

A MAGAZINE FOR SCHOOLS

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Mr. Staats is now a graduate assistant at the University of Wisconsin, and formerly instructor at the Tracy School, Bridgeport, Illinois, and at West Tennessee State Teachers College, Memphis. Mr. Staats presents here the nineteenth article in our series on human geography and together with the article on "The West Coast of India," which appeared in January, should provide the teacher with an abundance of source material.

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Mr. Rich is principal of an elementary school in Paterson, New Jersey, and instructor in Junior High School Methods in the Hyannis (Massachusetts) Summer Normal School. Miss Bowden and Miss Mahoney are junior high school teachers at South Bridge and Malden (Massachusetts) respectively.

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VOLUME XXXI MARCH, 1932 NUMBER 3

INDIA EAST COAST*

J. RILEY STAATS
University of Wisconsin

INTRODUCTION

Lying along the east coast of India between the Bay of Bengal and Eastern Ghats, and extending from Cape Cormorin on the south to the plains of the Ganges on the north is a region of low relief and intensive agriculture. The entire coast is characterized by high temperatures and seasonal rains. The population density ranging from 150 to 600 people per square mile[1] has its greatest concentration on the fertile loams of the deltaic tracts. On the inter-deltaic portions of the coastal plain are the sands, gravels, and laterites, soils that are less fertile and therefore less productive. The eastern portion in general is quite level but usually the relief increases toward the interior.

On the coastal fringe, where vegetation is found, coconut and palmyra palms cover an otherwise uninterrupted expanse of low parallel ridges of sand. These ridges are partially interrupted on the deltaic margins. In the swampy parts of the coast on the delta fringes and on the islands along shore are the mangrove forests that supply the greater part of the firewood used in the larger cities. In the alluvial area, and especially in the deltaic portions, rice dominates the landscape, while on the lower elevations in the region of laterites and gravels there are great stretches of scrub forests and semi-arid vegetation. Portions of the interstream areas are utilized by grazing and growing of hardy dry crops.

Villages of about 2000[2] population rather than many large cities are characteristic. These villages, nestled among paddy fields and

* The writer wishes to acknowledge the assistance of Dr. Glenn T. Trewartha, Department of Geography, University of Wisconsin, under whose direction this investigation was made.

[1] Census of India, Madras Presidency, 1921, p. 22.

[2] *Ibid.*, p. 24.

surrounded by palm trees, break the continuous expanse of paddy on the deltas.

Means of communication are well developed as the relief, in general less than 600 feet, with the greater part below 300 feet, presents but few obstacles to the construction of railroads and high-

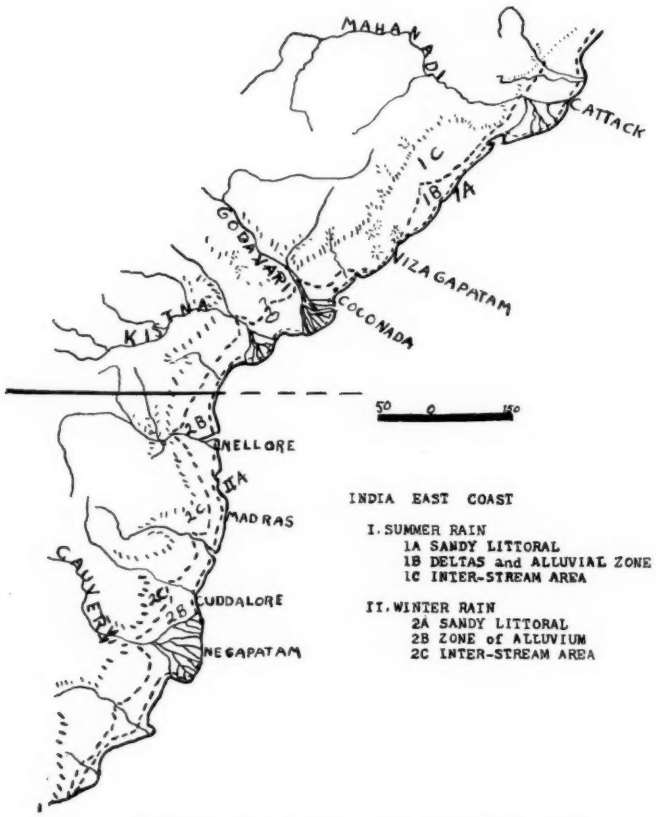

FIG. 1. Regions and sub-regions of India East Coast.

ways. This low relief likewise does not offer serious handicaps in the construction of canals, and these are used both for irrigation and transportation in the interior. The coastal sediments dip gently toward the sea and as a result deep water is not found near the coast which accounts for the absence of good natural harbors. At Madras, the metropolis of the East Coast, an artificial harbor has been constructed so that ships are enabled to make a transfer of cargo and passengers by masulas (flat-bottomed boats) in fair weather.

This long, narrow littoral, ranging from 30 to 80 miles in width has such a difference in its land forms, rainfall and seasonal cropping that the following regions and sub-regions are recognized:

I. Region of Summer rain
   a. The Northern Sandy Littoral
   b. Deltas in the Region of Summer Rain
   c. An inner belt of coastal sediments, laterites and gravels

II. Region of Winter Rain
   a. Sandy littoral and salt marshes
   b. Zone of alluvium
   c. Inter-stream area of coastal sediments and laterites

THE NORTHERN SANDY LITTORAL

A series of parallel sand dunes ranging from 30 to 60 feet in height, and varying from 3 to 6 miles in width, parallel the coast thruout this region. On the landward margin of this sandy strip long coarse grass and scrub-jungle seem to serve as a boundary for the barren lands. The eastern ridges are kept from being grass-covered by high winds blowing sand up from the sea. Mangrove forests are found, at intervals, along the seaward edge. These forests, as well as the scrub-jungles of the inner ridges, are the habitat of spotted deer, antelope, and wild hogs.

The landward slope of the innermost ridge is utilized for grazing of cattle that are owned in the villages which border it on the west. A few small, scattered villages are found in the area, occupying the higher ridges. They are surrounded by betel and coconut groves upon which the inhabitants depend mainly for a livelihood. A little salt-rice is cultivated in the low, brackish lagoons between the dunes, but it is of poor quality and of small amount. A few small cities are situated where the rivers enter the sea, and here some local fishing is carried on but a surplus of fish for export is never obtained. These cities have a small coastwise trade, but their harbors are so poor and their connections with the interior are such that no trade connections of any importance are maintained with the hinterland.

DELTAS IN THE REGION OF SUMMER RAIN

With the exception of the Godavari, Kistna, and Mahanadi deltas, and a few of the minor ones, the laterites and gravels of the inter-stream area extend nearly to the coast. It is on the deltas that agriculture reaches its maximum development and population its greatest density. These portions, and likewise the fingers of allu-

vium projecting inland along the many small streams, are covered with paddy fields.

GODAVARI DELTA

The apex of the Godavari is some 60 miles from the Bay of Bengal, and it has a sea frontage of 72 miles. This alluvial tract is composed of loams and regurs[3] overlying sedimentary and meta-

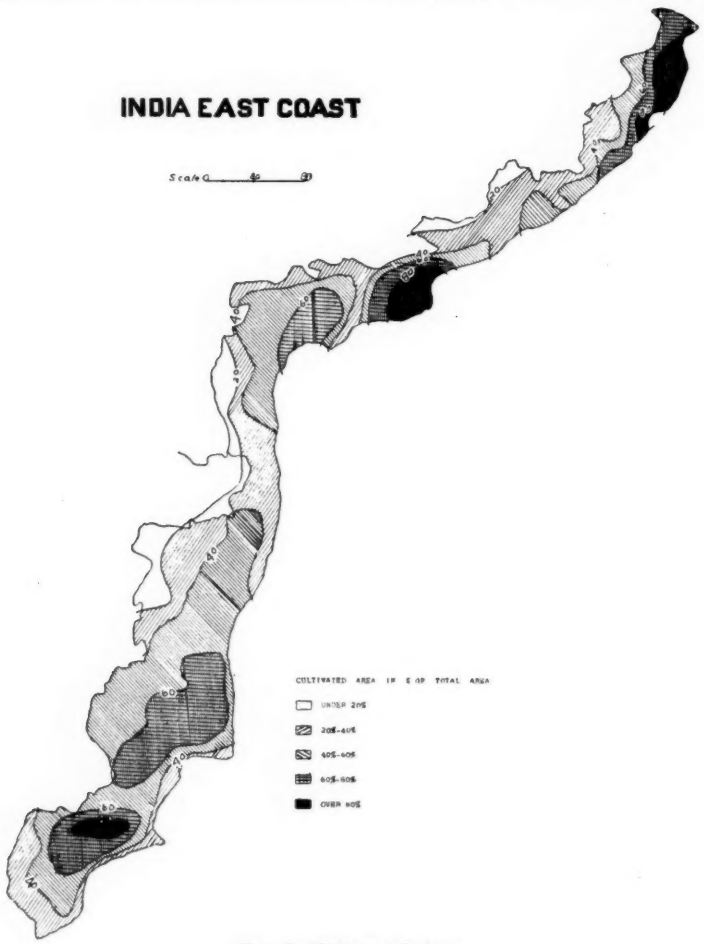

FIG. 2. Cultivated Area.

morphic rocks, in which large patches of sand and gravel often occur. The soils vary in color from light grey to black and for the most part they are highly productive. The more sandy portions lie adjacent to the river and near the seaward edge, and in these locations rice gives way to millets and palms.

[3] Regurs are dark compact soils retentive of moisture.

At the head of the delta a dam, 2½ miles long, makes available the water for the irrigation of some 780,000 acres. Thus the unreliable and ofttimes insufficient precipitation of the southwest monsoon no longer threatens this part of the coast with famine.

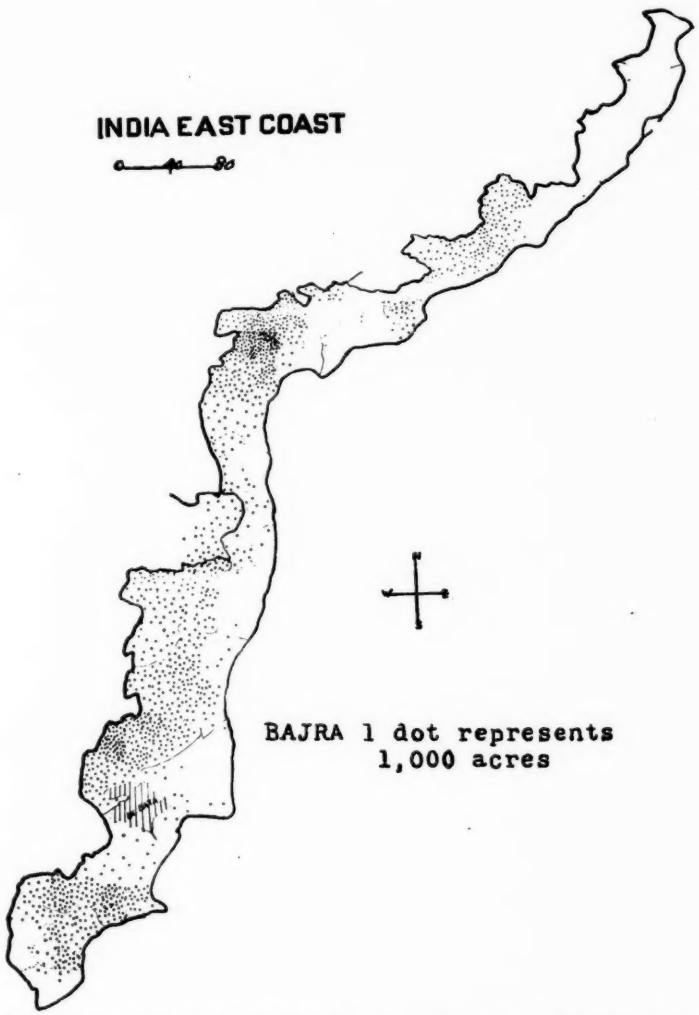

FIG. 3. Bajra Distribution. Note its importance in the Interstream Area.

The annual rainfall of 35 to 40 inches, of which two thirds comes from June to September, is not sufficient in a temperature mean of 82 for the intensive cultivation of rice and cholam.[4] From De-

[4] Cholam is a native name for a variety of millet, the grains of which are used as food. It is likewise known as jowar.

cember to March practically no rain falls, and but little during April and May. It is during this time that the hot season is experienced. The vegetation browns and the soils become baked and hard unless artificially watered. The sun is seen thru a haze, or veil of dust, and the sky is void of its usual blue. The cultivators, having harvested their winter crops, wait for the coming monsoon to fill their tanks and inundate the paddy fields. From midday until evening little is done, and all the outside world drops into a sweltering siesta. The first heavy rains, that note the arrival of the monsoon, give life to the vast expanse of brown as if touched by magic. The cultivator begins his preparation for another season's crop, and the brown surface soon becomes a sea of green.

The sand near the coast grades into a sandy loam towards the interior. The coastal sandy strip and the patches of sand and gravel within the delta proper are utilized in the cultivation of coconut and palmyra palms. There are numerous islands, or lankas, within the river channel that comprise some 15,000 acres on which the famous Lanka tobacco is grown.

An intricate network of canals totalling 1929 miles in length make the delta a farming tract that is largely independent of local rainfall. Of the irrigated portion, which includes nearly the whole of the delta, about 80 per cent is irrigated by government canals, and of the remaining 20 per cent which is confined to the margin where canals are not feasable, 13 per cent is irrigated by tanks and 7 per cent by wells.[5]

After the beginning of the southwest monsoon in the latter part of June, the Godavari rises to flood heights and soon the delta is inundated. The soil that was stirred after the coming of the first rains is again ploughed and reploughed after the subsidence of the floods. The power is supplied by oxen, which move back and forth in their slow plodding fashion. The primitive plow does not turn the ground, but stirs it. Such is the preparation for the transplanting of the rice that was started in small nursery beds, and is now of sufficient size to be transplanted.

The rice is transplanted into the thin mud of the fields in bunches of four, some six to eight inches apart. Soon the small fields become a mass of green as the paddy reaches a height sufficient to hide the mud embankments whose dual purpose is to separate the fields and also retain the water at the desired depth within each field.

[5] Season and Crop Report of the Madras Presidency, 1927-28, p. 7.

Rice is both a kharif crop (crop grown during the wet season), and a rabi crop (crop grown during the dry season). The non-irrigated rabi crop is sown on low-lying and swampy lands on black soils. The kharif crop is always transplanted and irrigated.

The rice is harvested by hand, using a small sickle in a slow and laborious manner. The sheaves are carried to the village thresh-

FIG. 4. Plowing rice fields in preparation for the transplanting of the paddy. Note the elevations in the background that cannot be used for such cultivation; the small fields; the embankments; and the cattle as a source of power. Photo by Ewing Galloway, N.Y.

ing floor, a hardened patch of bare earth, where the threshing is done by driving oxen back and forth over the straw. The grain is separated from the chaff by winnowing and the straw is utilized in feeding the oxen and buffalo. The stubble that remains is later uprooted and used as fuel. If sufficient water is available for irrigation purposes, a second crop of inferior paddy known as "deluva" is grown, or gingelly[6] is sown. Likewise, sennhemp is grown as a leguminous crop to fertilize the soil.

[6] Vegetable oil-seed.

The Godavari, one of the granaries of India, is predominately a region of cereals, as they occupy over 80 per cent of the cropped area. Of these, rice is the staple food grain of the irrigated portion of the delta, occupying over 80 per cent of the net cropped area, while cholam is grown on the clay or clay loams of the higher parts,

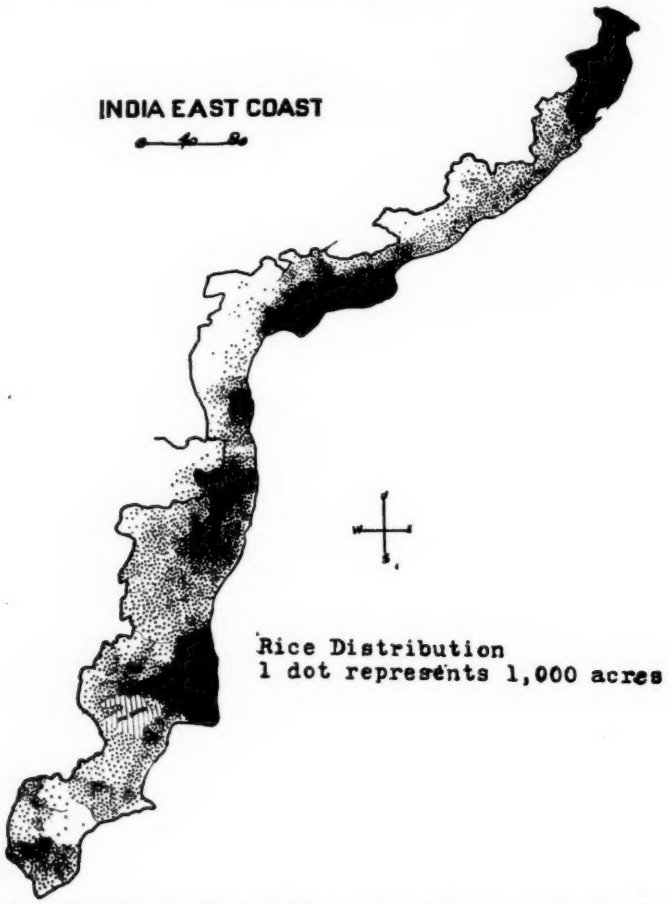

FIG. 5. Rice Distribution. The special concentrations are shown on the deltas and the alluvial zone.

mainly without irrigation. Cholam is a kharif crop, and with it pulses are intercultured. As the pulses require a longer time to mature, they remain after the cholam has been harvested. Bajra[7], mainly a rabi crop, is grown on the drier and more sandy soils as it is a hardier millet and can withstand more drought.

Industrial crops, such as cotton, gingelly and castor occupy

[7] Millet used as food.

about 8.4 per cent of the cropped area.[8] Cotton is grown on the compact, black soils, or regurs, and castor on both the lateritic and black soils. Vegetables and fruits are grown on the sandy tracts that lie along the river or on the seaward margin of the delta. The most important fruits are the coconuts which have a total acreage of some 59,000 acres. Near the coast are, also, plantain and mango gardens. In all, trees occupy about 3 per cent of the total area.

About 300,000 acres, or nearly 40 per cent of the area, are cropped twice a year, therefore fertilization is important. This is supplied in part by silt from the irrigation water, by penning sheep and goats on the fields to obtain their manure, and by scattering soils from old village sites that are high in nitrates. The need for fertilizer accounts for the compost heaps of stable refuse and cowdung in pits near the houses of the village. This refuse is deposited in the pits during the rainy season and then carted to the fields during the period of dry weather.

Villages of India East Coast

Slater describes a typical village,[9] if any could be selected as typical, as covering about 41 acres in which there is approximately one-half acre to a homestead. Surrounding the village and intermingled with the thatched roofed huts are palm trees and small gardens of vegetables. From these small centers of population, usually less than 2000 people, the cultivators go out to cultivate their land, ofttimes as far as three miles distant, but usually within a mile of their dwelling. This necessarily means small tracts, and as he further states, a man may have ten acres scattered in ten different directions. Plots of land are sometimes so small that it is impossible to get a plow into them; and as each plot is surrounded by an embankment, the waste of land is considerable.

Other Deltas in the Region of Summer Rain

The Kistna, like the Godavari, forms a large deltaic tract, but there are several major differences between the two: the soils are of the black cotton type rather than sandy loam, the palms and mango trees are lacking which is due to soil conditions, and, lastly, no second cropping is practiced due to the scarcity of water for irrigation purposes. The drainage basin of the Kistna is not as large

[8] Statistical Atlas of Kistna, 1924, p. 5.
[9] Slater, Gilbert. Some South Indian Villages, 1918.

as that of the Godavari, and in addition to the above fact, the Kistna drains an area of less rainfall (See map).

The Mahanadi delta, to the north of the Godavari, lies in a region of about 60 inches of rainfall which lessens the need for irrigation. In fact, irrigation is practiced only when the amount of precipitation is below the average. The only exception is the irrigation of spring rice, which occupies but 2 per cent of the rice area. Rice is the principal crop since over 80 per cent of the cultivated area is utilized in its production. Of this acreage, sarad or winter rice[10] occupies 77 per cent of the area. Only about 18 per cent of the area is irrigated for all purposes, while in the Godavari and Kistna deltas nearly the entire areas are provided for in irrigation. These three deltas form the great rice producing areas of the northern part of the coast.

Inner Belt of Coastal Sediments, Laterites, and Gravels

Lying between the fertile alluvial tract to the east and the Ghats to the west is an irregularly shaped region of laterites and coastal sediments, in parts maturely dissected, above the surface of which often protrude erosional remains of gneisses and schists. Serrating the eastern boundary, and often extending along the larger rivers across the area to the foothills of the Eastern Ghats, are many fingers of new alluvium on which there is intensive cultivation of paddy.

The elevation in general ranges from 300 to 400 feet near the eastern boundary to more than 2,000 feet in places along the western side. The differences in the vegetation cover and in the utilization of the area are partially due to the variety of elevations, and partially due to the fertility and depth of the soil. The higher parts get the heavier rains and these portions are usually forested with evergreens, while on the lower elevations are large areas of semi-arid vegetation and scrub-jungle. On the more fertile and deeper soils, where the precipitation is sufficient, or where water is available for irrigation, cereals are raised. Figure 2 shows the percentage of the area cultivated.

The rainfall of 50 inches for the major portion of the area decreases towards the coast and likewise towards the south during the period of the southwest monsoon, which brings over three-fourths of the total. Thus irrigation is of more importance in the

[10] Winter rice refers to the rice that is harvested in winter.

southern portion than in the northern part. The retreating southwest monsoon (commonly called northeast monsoon in general literature on India) does not add very much rainfall to the inner portion of the area, it being more important in the alluvial tract near the coast.

Water for irrigation is mainly obtained from tanks and wells. Most of the villages have one or more tanks (artificially constructed lakes, made by damming a depression) that serve as a source of water for irrigation, a bathing place, and as a source of water for drinking purposes. Next to rice, ragi (a variety of millet) is the important crop. Three crops of this cereal are usually grown each year. The first crop, grown during the hot season, is always transplanted and irrigated, the second crop may or may not be irrigated, according to the water that is available and the amount of rain during the southwest monsoon, while the third crop usually depends upon irrigation to mature it.

MINERALS

The only mineral of much importance is manganese. This mineral is confined to the district of Vizagapatam. These deposits occur mostly in low hillocks and mounds protruding thru the alluvium or coastal sediments. The ore is obtained from open quarries, and it is carried out of the pits on the heads of men, women, and children. While the tonnage mined at present is not large, 31,992 tons for the year 1927,[11] it is important, due to the fact that manganese deposits are not widely distributed over the globe. Some bauxite deposits of paying quality have been found, as well as a poor grade of coal, but neither are being exploited at present.

II. REGION OF WINTER RAIN

The southern portion of the East Coast receives the greater portion of its precipitation from the latter part of August to the first of January rather than during June, July, and August which is characteristic of the Region of Summer Rain (See rainfall graf). This difference in the rainfall régime and the smaller amount of precipitation in this area have led to such a difference in the time of cropping and land utilization that the Region of Winter Rain is recognized, and treated separately.

Rice is the dominant crop, but due to a lower precipitation it

[11] Records of the Geological Survey of India, Vol. LXI, p. 228.

is almost entirely dependent upon irrigation. In comparing the cultivatable areas of the two portions of the coast (Fig. 2) it will be seen that a greater part of the southern region is cultivated. This may be due in part to the more extensive system of irrigation

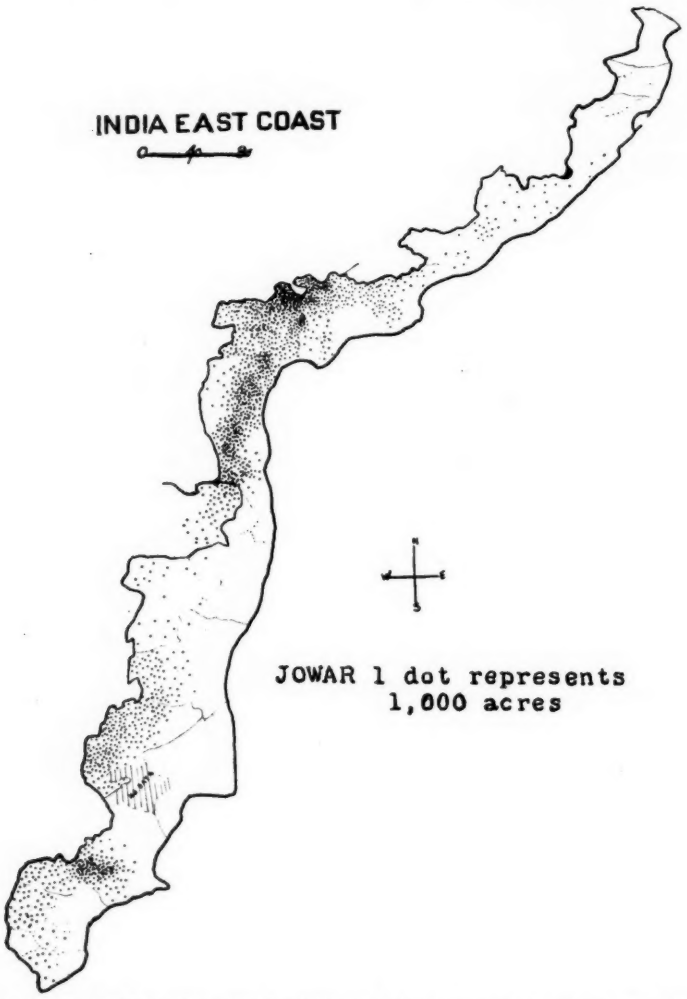

FIG. 6. Jowar Distribution. This millet likewise is crowded out of the alluvial areas by rice.

and the greater area of millet production. Other differences are: (1) Means of transportation are much better developed, (2) There is a larger number of cities, of which Madras, the metropolis of the East Coast, has a greater import and export trade than all the others of the entire coast combined.

II. A. Sandy Littoral and Salt Marshes

In many respects this part of the East Coast differs from the sandy littoral to the north. The dunes are not so high as those in the Region of Summer Rain. The coast along this part of the bay extends in a more north-south direction. This means that the southwest winds, instead of paralleling the shore, blow seaward. These off shore winds carry the sand towards the sea during the time they are blowing, and on the low coastal plain they have but little to impede them. During the retreating southwest monsoons, when the wind is on shore, the region gets its greatest rainfall (approximately 32 inches at Madras), and therefore the sand is more moist and compact which tends to keep it from being easily blown. The sandy part widens toward the south. To keep the sand from encroaching upon the alluvial zone, an attempt is made to grow binding grass and palmyra palms upon the sandy dunes. In Tinnevelly district, the palmyra plantations located mainly in this portion comprise 41,244 acres and produce 25,000 tons of jaggery[12] per year.[13] The Southern Littoral is likewise important in manufacturing salt by evaporating sea water. Evaporating pans, or shallow depressions each about an acre in extent, made in the earth after the rainy season, are characteristic features of the landscape. Seawater is pumped into the pans and ere long the dry air absorbs the liquid, leaving the salt behind.

The shore currents driven by the northeast monsoon tend to straighten the coast by building numerous spits and strand plains. These often enclose a portion of the sea forming brackish lagoons. The largest of these is Pulicat Lake, which is situated north of Madras. This shallow lake separates Srikarikota Island from the mainland. The island, a low sandy tract 35 miles long and 6 miles wide, is covered with a mangrove and casuarina forest that supplies a large part of the firewood used by the city or Madras.

Cities of the Southern Littoral

None of the cities, save Madras, has a harbor that accommodates ocean freighters. Being located on the coast, the sea breezes alleviate the higher temperatures that would be experienced were the cities situated farther inland. Therefore the coastal cities are preferred by Europeans to inland cities unless the latter are situ-

[12] Sugar from sap of palms.

[13] Statistical Atlas of Tinnevelly, 1924, p. 4.

ated on the highlands. Some coastwise trading is carried on by such cities as Negapatam, Cuddalore, and Rameswaram, but their combined volume does not equal the foreign trade of Madras.

MADRAS

Madras, the metropolis of the East Coast, is a city of over 500,000 people. It has an artificial harbor that permits ocean-going vessels to anchor a short distance from shore. The transfer of cargo is made by flat-bottomed boats known as masulas. Even tho the site is not favorable the situation accounts for the greater size of Madras in comparison with the other coastal cities. Industrially the city is of little importance, since there are but few small manufacturing establishments such as cotton mills, cement works, iron foundries, and cigar factories. These, however, are not comparable to the larger industries of Bombay or Calcutta. Madras is the focal center for highways, railroads, and canals. The connections by canals are both to the north and to the south, and the railway connections are excellent. As a result of the convergence of transportation lines and the artificial harbor over half of the exports and imports of the East Coast passes thru this port. The city spreads over an area having a sea frontage of 9 miles and a depth of 4 miles. In many parts it is almost rural in character and only to a limited extent does it present a compactness as might be expected in a city of its population. The dominant factor in the growth and importance of the city is the fact that Madras has the entire East Coast, a part of the West Coast and a portion of the Deccan Plateau for a hinterland.

THE ZONE OF ALLUVIUM

The alluvial tract in the Region of Winter Rain is wider than the similar area to the north. At no place do the laterites and outliers approach as close to the sea as they do in Vizagapatam, a district of the northern region. Neither do we find so many deltas, but rather the many streams and rivers have built up a zone of gently sloping alluvium adjacent to the littoral, of great depth and high fertility. The season of cropping is different. The rainfall is between 30 and 40 inches for the year, over half of which comes between September and the latter part of December (See Fig. 7). It is upon this period of autumn rain, aided by irrigation, that the system of cropping depends. Rice is the chief crop raised, but millets, oilseeds, and pulses are likewise grown. While perennial

canals from the rivers are extensively used, tanks and wells as sources of water for irrigation are far more important than are similar sources of supply in the region to the north.

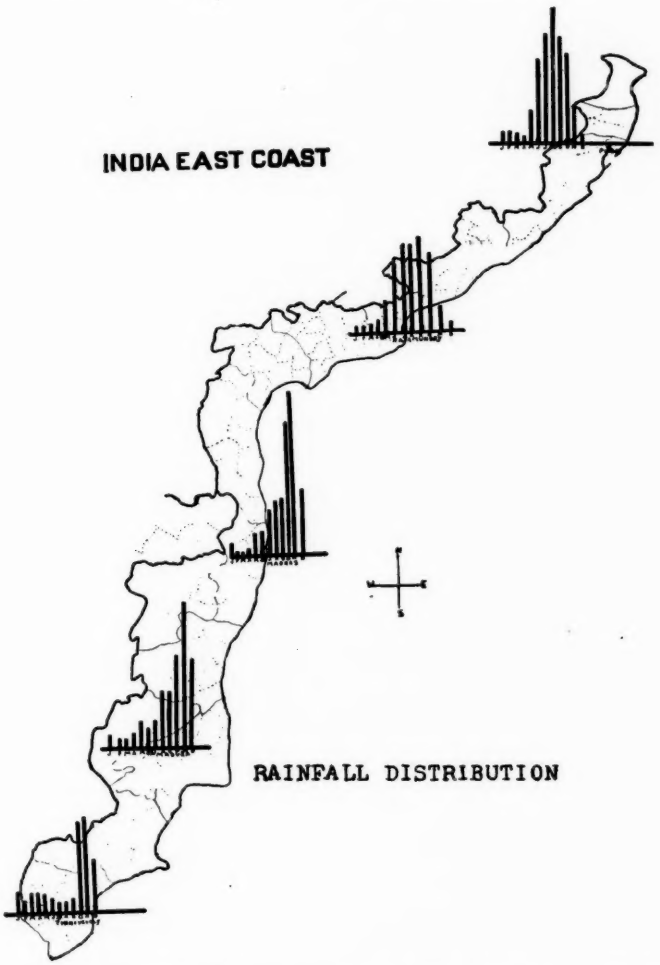

FIG. 7. Rainfall. The rainfall régimes of the northern and southern parts show a marked difference.

CAUVERY DELTA

The largest and most productive delta of the southern part is the Cauvery, the "Garden" as it is often called. This alluvial tract of approximately 1,500 square miles of nearly flat or gently sloping plain is one of the most fertile parts of southern India. The Cauvery River soon after entering Tanjore district divides into two branches, the Cooleron and the Cauvery, which enclose

the delta. The Cooleron flows directly into the sea, while the Cauvery forms a network of distributaries over the delta, some ultimately finding their way to the sea, while others are lost in the wide expanse of rice fields.

The soils of this area are alluvium and regurs with a littoral of sand. Of these, alluvium comprises 72 per cent, regurs 20 per cent, and sand 8 per cent.[14] On this fertile tract over 90 per cent of the cultivated area is utilized in the production of rice. Over 1,000,000 acres are now irrigated and with the completion of the Cauvery project an additional 301,000 acres will be brought under wet cultivation, which it is estimated will increase the rice production 150,000 tons[15] and thus add to the food supply of the country.

Over 70 per cent of the population is engaged in agriculture, while but 10 per cent are industrially employed. Farms averaging 3.79 acres are intensively cultivated, yet less than 12.5 per cent of the land is double cropped.[16] The area that is double cropped is near the western portion of the delta which receives the early, and small, freshets. The seasons of paddy cultivation are Kar (early crop) and Pisanam (late crop). The kar crop is confined to the western part which receives the early water, and here planting takes place in June or July and the harvesting is done in September. In the eastern portion the pisanam crop is planted in August and harvested in February. It is this crop, the major one, that receives the benefit of the retreating southwest monsoon. If the rainfall is excessively heavy during this period a second crop is planted in March and harvested in June, but such a crop is the exception rather than the rule. Other crops making up the remaining small percentage of the delta not occupied with paddy are oilseeds, millets, and tree crops. Of the latter, the chief ones are mangoes thruout the delta, and coconuts near and on the littoral. Little dry-farming is practiced in the delta, it being confined to the red ferruginous soils that spread out on either side of the alluvial tract. It is here that the millets are chiefly raised (See dot map).

The Cauvery, or "Garden," as the delta is called, is one of the chief food exporting centers of the East Coast in spite of its population density of 500 to 650 people per square mile.[17] So important

[14] Tanjore Statistical Atlas, 1924, p. 5.
[15] Triennial Report of India, 1921-24, p. 8.
[16] Statistical Atlas of Tanjore, p. 4.
[17] Census of Madras, p. 8.

is the river in the development of the delta that the native population regard it as sacred, second only to the Ganges.

OTHER ALLUVIAL PORTIONS

Each of the other rivers of the southern part has built up an alluvial deposit along its course that lies superimposed upon the coastal sediments, and to a more or less degree has built a delta at its point of entering the sea. The flow of these small rivers is very uncertain and fluctuating, which may account in part for the absence of well-developed deltas at their mouths even tho a fertile alluvial deposit has been built up along their courses. Due to the uncertain flow of these smaller rivers, irrigation is not as reliable as it is along the larger rivers. Most of the water is utilized in supplying tanks rather than perennial canals. In fact, during a part of the year the rivers may be likened to ribbons of sand in which are found merely a succession of separate pools. Even tho the rivers become practically dry in summer, the water table adjacent to their beds is high, and so numerous wells supplement the water available from the tanks.

From the lake north of Madras to Cuddalore the alluvium is of great depth and high fertility. Blandford says, "This fertile deposit superimposed upon coastal sediments at Madras has a depth of 55 feet, and further south at Pondicherry the thickness is much greater, one boring put down 500 feet without reaching its base.[18] In this area artesian wells at various depths give a copious supply of water. This is the major alluvial section depending upon tanks and wells for irrigation. The following table, somewhat typical of the zone of alluvium, shows the percentage of each crop to the total cropped area.[19]

	Per Cent
Paddy	69
Ragi (millet)	9
Ground nuts	3
Fruits and vegetables	3
Gingelly	2
Others each less than	2

INTERSTREAM AREA OF COASTAL SEDIMENTS AND LATERITES

This portion of the East Coast has a varied topography. In North Arcot District the surface is highly dissected, and spurs of

[18] Blandford: Geology of India, p. 408.
[19] Chingleput Statistical Atlas, 1924, p. 3.

the Ghats of 2,500 to 3,000 feet in elevation extend almost at right angles to the main axis of the mountains. In this highly dissected part forests clothe the uplands while in the narrow valleys the land is utilized in raising cereals. Near the eastern border of the region the uplands give way to an undulating plain, some 300 to 600 feet in elevation, covered with scrub jungle for the most part, and amongst which are nestled small villages. Between the plains of the east and southeast and the highlands of the western part is the area of rolling uplands. The eastern and western boundaries are very irregular due to projections of alluvium extending inland along the former and the spurs of the Ghats causing the irregularity of the latter. Many small isolated hills, especially near the western margin, are the sites of bungalows which are used during the hot season.

Jowar and bajra occupy quite an important place in the agriculture of the region, and these crops, as well as ragi and pulses, are rather widely scattered thruout the portion of interstream areas. Rice is confined to the stream valleys and small alluvial patches in the interstream areas that owe their existence to depressions filled with fluvial materials.

The peninsula narrows towards the south and the Eastern Ghats and the Deccan Plateau end at the Nigilris Hills. Thus the southern portion of the East Coast comes in close proximity to the high Western Ghats and as a result it lies in a definite rain shadow. The aridity of the southern part, together with the permeable soil, resulting from the distintegration of sandstone and limestone bedrock, account for the large tracts of semi-arid vegetation. However, due to the narrowing of the land which permits a more marked marine influence, and the absence of the scorching westerly winds from the Deccan, the southern part is as cool as the northern portion of the region, both parts have a mean annual temperature of 82°. To get relief from the high temperatures, sanatoriums as well as many of the homes of the Europeans are situated on the uplands to the west.

It is in this southern section that the greater amount of cotton of the East Coast is found. Tinnevelly ranks highest of all the districts in its production. This political unit has an acreage of 146,438 acres[20] mainly on the area of black cotton soil, which extends 60 miles south from the boundary of Madura in a width of 40 miles.

[20] Tinnevelly Statistical Atlas, p. 8.

A much greater amount of the area is cultivated than that found in the Region of Summer Rain (See Fig. 2). Highways and railroads are developed more extensively than in the interstream areas of the northern region. Breaks in both the Eastern and Western Ghats are utilized by railroads connecting the East Coast with the Deccan and with Bombay on the West Coast. The network of highways are lined with casuarinas, mangoes, and palms, giving the appearance of avenues of trees. At intervals along the highways, and among the scrub-jungles in small clearings, are villages which are similar to those of the other regions previously discussed.

The cultivators of the deltas and the alluvial belt along the eastern margin of this area send their cattle inland to graze during the cropping season. Thus the jungles and the semi-arid parts are utilized as well as the reserved forests, where grazing is permitted under certain regulations. The cattle of the East Coast, as well as thruout India, are of an inferior type for the most part. Since religious beliefs forbid their being killed, many are poor, scrawny and half starved.

SUMMARY

The East Coast is a region in which farming is the chief occupation. In fact, over 75 per cent of the population for the entire area is engaged in some form of agriculture. Many large cities are lacking as the cultivators live in villages that are located in the midst of their agricultural areas. Rice is the main crop thruout, and especially is it important in the alluvial area, but millets are extensively raised in the area less suitable for rice to supplement the food supply. Other crops such as cotton, pulses, gingelly, oilseeds, and tree crops are raised, but these are of far less importance than are the cereals.

HEART INTEREST IN GEOGRAPHY

An Approach to Social Science thru the Winning Travel Books in Children's Literature

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WHY TEACH GEOGRAPHY?

Among the "why's" teachers should ask themselves, now and then, in class, in conference, in the reading circle and in private moments of stock-taking, is this one that merits more consideration than it usually receives—Why teach geography?

If we match the contents of the traditional course or textbook against the famous seven cardinal principles of education,[1] health, fundamental processes, home membership, vocation, civic education, use of leisure, and ethical character—we may fail to see how many of the exercises, except very remotely and by a long stretch of the imagination, contribute to any one of them.

It is interesting to have some idea where people and news and products come from. It is useful to know how much postage or gasoline it takes to reach a given place. But does the self-made man, who gets his geography mostly from hearsay, conversation, newspapers, and business and holiday trips, lack something infinitely more vital and necessary, which the time and expense of school instruction represents? Clearly it ought to be so.

THE CARDINAL OBJECTIVES

However, the longer we study the cardinal objectives in terms of geography teaching and home-work exercises, the more we are convinced of the need for experts to rewrite the chapters of description and the study helps that follow, so as to contribute much more directly and definitely to the needs of the average citizen, as these cardinal principles define them.

Health! Wouldn't it be interesting to compare notes with the Russian who sleeps on the stove, the Hawaiian who eats with his fingers, and the Chinaman who saves every ounce of sewage to

[1] *Bureau of Education Bulletin*, No. 35, 1918. Government Printing Office.

spread on his garden? Ought not a city whose children's teeth are in perfect or practically perfect condition be as famous as the one that ships the highest tonnage of tobacco?

Fundamental processes! Couldn't the geography be a little better reading, a more inspiring subject for writing, and some interesting and illuminating reckoning? Could geography make much of vocational opportunities and requirements? Is there anything to be learned from abroad in the handling of civic problems? Travel is now a prominent leisure activity for the well-to-do. Could geography, begun in school, be made to contribute comparable amusement and breadth of character to the rank and file? Could geography be rewritten to bring out the ethical virtues of nations and races, and so qualify as moral training?

Assuredly it could, but will it? And when? Writers and publishers have to sell their wares when they make them, hence they must wait till the demand justifies the investment. But the teachers have plenty to do without studying out something revolutionary, so they cannot go much farther than the publishers. Which is coming first, the hen or the egg?

Humanized Geography

Progress is plainly discernible in several humanized geographies, tho there is more merit in the intention than in the accomplishment. Geography needs to be written with infinitely more of detail, atmosphere, and heart interest than has ever been considered possible in a pupil's textbook. In this respect the geographical reader is a real advance, but the writers still seem obsessed with the notion that 99 per cent of geography must be filled with wharves and factories and fields, with here and there, may be, a big piece of architecture, for which the average child does not care two farthings. That's the kind of stuff they put on at the movies to chase out the crowd and make room for new admissions. Interest and influence are not made of that kind of material.

A famous writer on salesmanship gives a pointer on interest that all school people ought to take to heart. "If I wished to give a man a real conception of the true glory of Niagara Falls," he says, "I should arrange to have a picture taken of the Falls, with the man himself in the immediate foreground, and then give him a copy of the picture to study and admire."

BRINGING THE CHILD INTO THE PICTURE

There is the fundamental principle: to be interested, you must see yourself in the picture; you must identify yourself with one of the actors, and suffer and struggle and triumph when he does. And the hero in the child's picture must be a hero a child can impersonate, a Robinson Crusoe, for instance. But geography as we teach it is the story of the island, with Crusoe and Friday entirely left out.

Is there any available solution to the problem? Is there any ready-to-hand material that will make geography a thrilling, vital factor in a child's educational development and preparation? Fortunately, there is. Some of the best authors that have written for children have done their work in a geographical setting. Geography is properly the study of the earth as the home of man, but for children, it should begin with some little corner of the earth, and tell the story of some particular man and his family who lives there.

LIBRARY READING

This order is filled best by a library of winning children's books, picturing dramatic scenes of child life in other lands. Here is sufficient detail to create atmosphere, heart interest, life concerns, ethical situations, and that broadening of experiences and sympathies that makes geography a substitute for travel in character development. Such a geography is not "passed off" at the end of the term, but remains with the individual to become one of the abiding interests of maturity.

Here is a list, by countries, of books that correlate well with the formal geography courses and supply the heart interest that most textbooks lack. It is not to be expected that they can be read in class, but enough of the geography or reading period could be taken to hear a sample here and there, or get reports from pupils who have read the books, so as to motivate private reading by the rest of the class whenever they can borrow them and finish them in their own time and of their own accord. The books listed are for the most part within the actual reading ability of average sixth graders. This means something different from the grading as recommended by publishers, librarians, and superintendents. Apparently these good people have judged children in the past mainly by the little high-brows in their own families, or the rather unusual children who frequent libraries and book shops. The average

child as the teacher knows him is two or three years below most of these book gradings, as the Winnetka[2] and other statistical studies of interest and grading of children's books have shown.

How to Get Books

Where can teachers get these books to lend to children? The school authorities could not spend money to better educational advantage than to buy the list outright. Alas! in some places it would be easier to get marble lions for the front door, especially if some local sculptor wanted the contract to carve them. Most of the titles are great favorites among children's books and so a good many will already be available in the public library. Doubtless the library authorities would welcome suggestions as to others that should be added. Extension or traveling libraries from state sources are available in some places. In many cases, money for the books would have to be raised by teachers and pupils working for themselves, selling holiday cards, souvenir photographs, candy, and the like, or conducting socials, card parties, or entertainments. Sometimes local picture houses are glad to offer special concessions on Friday afternoons or Saturday mornings. In New Jersey, the State Library Commission contributes ten dollars per year per school providing that at least as much more is raised by the school itself for approved reading.

Results

However the books are supplied, the best results will be secured if the books are loaned out by the teacher and pupil-librarian right from the classroom, one night to a loan, preference being given to pupils who want to reborrow and finish the book they had the night before. Pupils will advance by leaps and bounds in reading ability, geography interest, and general information. By actual test, a class that was examined on the contents of one book, borrowed this way from the classroom library (it was Perkins's "Mexican Twins") passed a better examination on its geography than they did on a similar examination covering the contents of their regular geography text, studied daily with the teacher's assistance. A dollar spent for a stirring volume of supplementary reading is probably the biggest dollar that the school administration can spend.

[2] *Winnetka Graded Book List*, Am. Lib. Assn., Chicago.

THE READING LIST

Europe

Upjohn: Friends in Strange Garments. Houghton Mifflin, Boston

Albania

Robida: Treasure of Carcassonne, Longmans, Green & Co., N.Y.
Miller: Children of Mountain Eagle. Doubleday Doran & Co., N.Y.

Bulgaria

Winslow: Our Little Bulgarian Cousin. Lothrop, Lee & Shepard, Boston

Belgium

Jonckhure: When I was a Boy in Belgium. Lothrop, Lee & Shepard, Boston
Ouida: Dog of Flanders. Macmillan Co., N.Y.
Perkins: The Dutch Twins. Houghton Mifflin Co., Boston
Ouida: Nurnburg Stove. J. C. Winston Co., Philadelphia
McManus: Our Little Belgian Cousin. L. C. Page, Boston

England

Fairstar: Memoirs of a London Doll. Macmillan Co., N.Y.
Lucas: Anne's Terrible Good Nature. F. A. Stokes Co., N.Y.
Marshall: Beowulf. F. A. Stokes Co., N.Y.

France

Perkins: The Little French Twins. Houghton Mifflin Co., Boston

Germany

Sedgwick's Germany. Century Co., N.Y.

Greece

Finnemore and Browne: Peeps at Many Lands. Macmillan Co., N.Y.
Dragoumis: Under Greek Skies. E. P. Dutton & Co., N.Y.

Holland

Bok: A Dutch Boy Fifty Years After. Century Co., N.Y.
Olcott: Wonder Tales from Windmill Lands. Longmans, Green & Co., N.Y.
Dodge: Land of Pluck. Century Co., N.Y.

Italy

Beltramelli: Piccalo Pomi. E. P. Dutton & Co., N. Y.
Ambrosi: When I Was a Girl in Italy. Lothrop, Lee & Shepard, Boston
Collodi: Pinocchio. Macmillan Co., N.Y.
Amici: Cuore. Rand, McNally & Co., Chicago
Williams: Little Brother Francis of Assisi. Macmillan Co., N.Y.
Capuana: Nimble-Legs. Longmans, Green & Co., N.Y.

Ireland

McDonald and Dalrymple: Kathleen in Ireland. F. A. Stokes Co., N.Y.
McManus: Donegal Wonder Book. F. A. Stokes Co., N.Y.
Colum: Boy in Eirinn. E. P. Dutton & Co., N. Y.

Norway

Du Chaillu: Land of the Long Night. Macmillan Co., N.Y.
Zwilgmeyer: Inger Johanne. Lothrop, Lee & Shepard, Boston
Zwilgmeyer: Inger Johanne's Lively Doings. Lothrop, Lee & Shepard, Boston
Zwilgmeyer: Johnny Blossom. Lothrop, Lee & Shepard, Boston.

Poland

Kelly: The Trumpeter of Krakow. Lothrop, Lee & Shepard, Boston
Mendel: Our Little Polish Cousin. L. C. Page, Boston

Portugal

Sawyer: Jose, Our Little Portugese Cousin. Lothrop, Lee & Shepard, Boston

Russia

Grishina: Peter Pea. F. Stokes & Co., N.Y.
Grishina: Shorty. F. Stokes & Co., N.Y.
Grishina: Sparrow House. F. Stokes & Co., N.Y.
Carrick: Russian Picture Tales. F. Stokes & Co., N.Y.
Carrick: More Russian Tales. F. Stokes & Co., N.Y.
Clark: Poppy Seed Cakes. Doubleday Doran & Co., N.Y.
Siberiak: Verotchka Tales. E. P. Dutton & Co., N.Y.
Charskaya: Little Princess Nina. Henry Holt & Co., N.Y.

Serbia

Davies: Boy in Serbia. T. F. Crowell Co., N.Y.

Scotland

McDonald & Dalyrmple: Donald in Scotland (Series). Macmillan Co., N.Y.
McManus: Scotch Cousin. L. C. Page, Boston

Spain

Morley: Donkey John of Toy Valley. McClurg & Co., Chicago

Sweden

Fitinghof: Children of the Moor. Houghton, Mifflin, Boston

Switzerland

Spyri: Heidi. T. F. Crowell Co., N.Y.
Spyri: Jorli. T. F. Crowell Co., N.Y.
Spyri: Little Curley Head. T. F. Crowell Co., N.Y.
Spyri: Peppino. T. F. Crowell Co., N.Y.
Spyri: Gretli's Children. T. F. Crowell Co., N.Y.
Spyri: Moni, the Goat Boy. T. F. Crowell Co., N.Y.

China

Van Bergen: Story of China. World Book Co., Yonkers
Price: The Middle Country. World Book Co., Yonkers
Kront: Two Girls in China. World Book Co., Yonkers
Chrisman: Shen of the Sea. Dutton & Co., N.Y.
Chrisman: The Wind that Wouldn't Blow. Dutton & Co., N.Y.
Davis and Chow Leung: Chinese Fable & Folk Stories. American Book Co., N.Y.
Rowe: Rabbit Lantern. Macmillan Co., N.Y.
Rowe: Traveling Shops. Macmillan Co., N.Y.

Japan

Murai: Kaibun Daisin. Century Co., N.Y.
Campbell: Story of Little Metzu. Educational Pub. Co., N.Y.
Gaines: Treasure Flower. E. P. Dutton & Co., N.Y.
Haskell: O Heart San. L. C. Page, Boston
McDonald & Dalrymple: Ume San in Japan. Little, Brown & Co., Boston
Perkins: Japanese Twins. Houghton, Mifflin, Boston

Price: Middle Country. World Book Co., Yonkers
Sugimoto and Austin: With Taro & Hanna in Japan. F. A. Stokes Co., N.Y.
Wade: Our Little Japanese Cousin. L. C. Page, Boston
Van Bergen: Story of Japan. World Book Co., Yonkers
Bacon: A Japanese Interior. Houghton Mifflin Co., Boston
Sugimoto: Picture Tales from the Japanese. F. A. Stokes Co., N.Y.
Williston: Japanese Fairy Tales. Rand, McNally & Co., Chicago
Nixon-Roulet: Japanese Folk Stories. American Book Co., N.Y.

Korea

New: When I was a Boy in Korea. Lothrop, Lee & Shepard, Boston

India

Babbitt: The Jatakas Tales of India. Century Co., N.Y.
Babbitt: More Jataka Tales. Century Co., N.Y.
Jacobs: Indian Fairy Tales. Putnam's Sons, N.Y.
Mukerji: Kari-The Elephant. E. P. Dutton & Co., N.Y.
Mukerji: Gay Neck. E. P. Dutton & Co., N.Y.
Mukerji: Hari, the Jungle Lad. E. P. Dutton & Co., N.Y.
Mukerji: Ghond, the Hunter. E. P. Dutton & Co., N.Y.
Mukerji: Jungle Beasts and Men. E. P. Dutton & Co., N.Y.
Ghosh: Wonders of the Jungle. D. C. Heath & Co., Boston
Kipling: Jungle Book. Doubleday Doran, Garden City, N.Y.
Stuart: In and Out of the Jungle. D. C. Heath & Co., Boston
McDonald and Dalrymple: Chandra in India. Little Brown & Co., Boston
Parker: Skunny Wundy. Doubleday Doran, Garden City, N.Y.
Dombrowski: Coga, the Elephant. Macmillan Co., N.Y.
Satyananda: When I was a Boy in India. Lothrop, Lee & Shepard, Boston
Williston: Hindu Fairy Tales. Rand, McNally & Co., Chicago

Arabia

Katibok: Arabian Night's Entertainment. Ginn & Co., N.Y.
Katibok: Other Arabian Night's Entertainment. Ginn & Co., N.Y.

Persia

Ferdusi: Epic of Kings. Macmillan Co., N.Y.
Ferdusi and Reninger: Story of Rustum. Scribner's Sons, N.Y.

Palestine

Baldwin: Old Stories of the East. American Book Co., N.Y.
Mirza: Myself When Young. Doubleday Doran, Garden City, N.Y.

Tibet

Zietlin: Gessar Khan. Doubleday Doran, Garden City

Siberia

Harper: Siberian Gold. Doubleday Doran, Garden City
Charskaya: The Little Siberian. Henry Holt & Co., N.Y.

Philippine Island

Stuart: Piang. Century Co., N.Y.
Mitchell: Paz and Pablo. World Book Co., Yonkers
Banks: Barbara's Philippine Journey. World Book Co., Yonkers
Little: Francisco, the Filipino. World Book Co., Yonkers
MacClintock: The Philippines. World Book Co., Yonkers
Perkins: The Filipino Twins. Houghton, Mifflin, Boston

Hawaiian Islands

Krout: Alice's Visit to the Hawaiian Islands. World Book Co., Yonkers
Wade: Our Hawaiian Cousin. L. C. Page, Boston.
Colum: At the Gateway of the Day. Yale University Press, Conn.

The South Seas

Nordhof: The Derelict. Little, Brown & Co., Boston
Nordhof: The Pearl Lagoon. Little, Brown & Co., Boston

Africa

Du Chaillu: Lost in the Jungle. Harper & Bros., N.Y.
Du Chaillu: Stories of the Gorilla Country. Harper & Bros., N.Y.
Du Chaillu: Wild Life Under the Equator. Harper & Bros., N.Y.
Berry: Girls in Africa: Macmillan Co., N.Y.
Akeley: Biography of an African Monkey. MacMillan Co., N.Y.
Pratt, Chadwick, and Lamprey: The Alo Man. World Book Co., Yonkers
Cherubin: Pinocchio in Africa. Ginn & Co., N.Y.
Smedley: Tales from Timbuktu. Harcourt, Brace & Co., N.Y.
McDonald and Dalrymple: Hassan in Egypt. Little Brown & Co., Boston
Faris: Real Stories of the Geography Makers. Ginn & Co., N.Y.
Star: Mustapha, the Egyptian Boy. Educational Publishing Co., N.Y.
Perry: With Azir Girges in Egypt. Mentzer, Bush & Co., N.Y.
Coatsworth: Toutou in Bondage. Macmillan Co., N.Y.

Australia

Nixon and Roulet: Our Little Australian Cousin. L. C. Page & Co., Boston
Faris: Real Stories of the Geography Makers. Ginn & Co., N.Y.
Myrick & Holmes: Home Life Around the World. Houghton, Mifflin Co., Boston

South America

Finger: Tales From Silver Lands. Doubleday, Doran & Co., Garden City, N.Y.
Hudson: Little Boy Lost. A. A. Knopf, N.Y.
Hudson: Far Away in Long Ago. E. P. Dutton & Co., N.Y.
Tee-Van: Red Howling Monkey. E. P. Dutton & Co., N.Y.

Ocean Explorations

Putnam: David Goes a-Voyaging. Putnam's Sons. N.Y.
Gardner and Osborne: Father Goes a-Whaling. Harcourt, Brace & Co., N.Y.
Ingersoll: Book of the Ocean. Century Co., N.Y.
Hildebrandt: Magellan, His Life and Adventure. Harcourt, Brace & Co., N.Y.
Beebe: Arcturus Adventure. Putnam's Sons, N.Y.

GEOGRAPHY IN ENGLISH AND IN AMERICAN SCHOOLS: SOME CONTRASTS

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INTRODUCTION

In examining a foreign school system we are concerned with finding in what respects it is superior to ours and what features might be adapted to our system and thereby improve it. There are certain general characteristics that we need to consider since they have a bearing on the kind of work done, how it is done, and the product turned out. It is always difficult to contrast educational systems of different countries because so many elements of organization are not exactly comparable. For example, the nomenclature descriptive of the kinds of English schools, the grading system, the methods of administration, etc., are unlike ours. To prevent confusion in the mind of the reader of this paper English terms will be avoided so far as possible. Our purpose will be served best by a simple grouping of the "common" schools of England under terms with which we are familiar. As an arbitrary matter of convenience, the term "secondary school" will be used to cover the period from ages 11 or 12 to 18 inclusive, and schools for younger childen will be classed as "elementary." Further, unless otherwise stated this discussion is confined to the "secondary school" as defined. This grouping approximates our elementary and junior-senior high school units but for some students extends beyond our high school into junior college.

PERTINENT FEATURES OF THE ENGLISH SYSTEM

We are concerned with a discussion of the general educational system of England only in so far as such discussion will aid in making comparisons with our own. English schools as a whole may be grouped very broadly into two units, the "Public Schools" and other schools, which I will call "common schools" in the absence of any other distinctive term. The "Public Schools" include such well known institutions as Eton, Rugby, and Winchester. In this country our nearest counterpart is the better private school. The Public Schools are independent institutions free from all government regulation. Their curricula vary considerably; but the

classics, literature, and history receive the greater emphasis, and science instruction comes late in the curricula, if at all. Today, as in the past, they serve the gentry and the wealthy and there is a marked prestige attached to graduation from one of them. Many of the ideals developed in these schools are now exercising a great influence in the "common schools" of the country. Among these contributions are the traditions of close friendly relationship between teacher and pupil, of loyalty and of discipline, of co-operation, of the ideal of government for the good of the governed, of service to the people and to the nation, and of high scholarly standards. These schools serve the few while the common schools serve the masses. The great contributions of the Public Schools to the general educational system are the standards and traditions that have been set up thru the years, and which they are endeavoring to maintain even while clinging to the older fields of education and largely ignoring the newer.

It is the common schools (as defined) that serve the multitude, are endeavoring to meet the needs of the present day, are widening their curricula and presenting an opportunity for study in many fields of knowledge, and endeavoring to attain and maintain the traditional standards of the Public Schools. Many common schools still maintain a measure of independence even tho they receive government aid. Each school is concerned greatly with the development of worthy traditions and with turning out a student product noted for its scholarly attainments. Administrators, instructors, and student body are mutually ambitious to have their school rise to the highest level.

The curricula of the English secondary schools and the standards for graduation (our term) wield another strong influence. In general the curricula are designed to give a broad education and provide for specialization. They include such subjects as geography, history, classics, English, mathematics, science, and at least one language other than English. Simply listing names of subjects gives the impression that these curricula are very much like our own high school curricula. However, they are different in at least three striking respects. First, they provide for a *continuity* of study thruout the secondary school—not merely sequence—and specialization in the last two years (16 to 18). The English student is expected to gain sufficient knowledge of a given subject to be able to use that knowledge effectively. He is expected to acquire a

thoro knowledge of selected fields instead of learning "a little or nothing about everything." Second, the student should know at least one foreign language well enough to *use* it. Third, geography is continued thruout the secondary schools because English educators consider that educated citizens should be acquainted with the geography of the world, and really know something about the world beyond their immediate neighborhood. Ignorance of the world is considered as inexcusable as is ignorance of the fine things of literature, history, science, or art.

As previously stated, the student pursues his work with a high degree of continuity in both content and time, and usually under the direction of specially trained teachers. This is as true of geography as of other subjects and is in contrast with the lack of geographic training among our high school teachers. The student's progress is determined by his accomplishments, measured largely by his ability to apply his knowledge as revealed by examinations. When the student is ready, usually at about 16 years of age, he takes an examination prepared, administered, and largely graded by an *outside* examining body. Passing this examination is our equivalent to high school graduation. He may then continue his major specialization in the secondary school, take another examination, then pursue further study in the university for three years and "graduate" after passing the final examination. It is evident that under such a system the weak are eliminated all along the line, a high degree of scholarship is required, selection for higher training is based on scholarship, and that such standards wield a powerful influence in bringing out the best in a worth-while student. His standing thruout the entire course of training depends largely upon the quality of work that is done. Learning, good sportsmanship, and being a gentleman are held in high esteem. These will determine the measure of respect in which he is held by the student body and by the teaching staff. All this is in contrast with our efforts to *make* all our students graduate. It is thru such a system that the Britisher gets his knowledge of the geography of the world. Similar procedure in geographic training prevails in several of the other principal European countries. It is very probable that the average student who has passed thru such a system is superior in scholarly attainment to the average product of our high school.

GEOGRAPHY IN THE ENGLISH SYSTEM

The importance of geography in the minds of English leaders is recognized in the following quotation from a report of the Board of Education.

> The importance of geography as a subject in the curriculum for all types of post-primary education needs little arguing. Travel and correspondence have now become general; the British dominions are to be found in every clime; and these facts alone are sufficient to ensure that the subject shall have an important place in every school time-table. But these utilitarian reasons are not the only ones that make its claims to inclusion in the time-table incontrovertible; and from some points of view they are not even the most important. For, however useful geographical information may be, its value must rest . . . on its use as an instrument of education, i.e., as a means of developing the growing interests of the pupils. In this connection it has proved itself to be a subject which, when well taught, makes a very strong appeal to them. As a consequence, it should occupy no subsidiary or doubtful place, but should be one of the principal items in the curriculum.

Geography is now taught almost universally thruout the common school system from the elementary thru the secondary school, teacher training college, and university. A systematically planned continuity of geographical training is offered in nearly all secondary schools (11 to 18), and taught by specially trained teachers. There is no break from the elementary school stages thru the university. In general terms geography curricula offer regional courses covering the continents and important countries with emphasis placed upon the British Empire; physical geography with its human relations; and economic and commercial geography. Knowledge of other peoples of the world and an understanding of their efforts to gain a livelihood in their respective natural environments are considered essential to good British citizenship. The quality of the work being done in the secondary schools is indicated by the large proportion of students who succeed in the final examination, administered by outside agencies, and who thus qualify for advance study in the secondary school or university.

Among the more recent stimulants to geography teaching is a systematic geography course presented over the radio. This course is thoroly integrated with the course of study, supplements it effectively and is presented on set dates by many of the most eminent geographers and travelers of the country, who have first-hand knowledge of the regions described. It is indeed an inspiration to see a group of children with atlases, wall maps, pictures, and notebooks before them, react to the personal description coming to them from "one who has been there." This work must not

be confused with our so-called educational programs which are, in reality, chiefly entertainment. Each talk has been prepared with great care and graded in language and content to the age of the children for which it is intended. An illustrated pamphlet giving dates, a synoptic outline, and references to books and moving picture films is provided for each student for the school term. The series of geographic talks is planned by such eminent leaders in geographic education as Professor James Fairgrieve and Mr. Ernest Young, both of whom are well known in this country.

THE SERIOUS GAP IN OUR GEOGRAPHIC TRAINING

The graded continuity of geographic study thruout the English system is in striking contrast with our poorly conceived procedure. We commonly discontinue systematic geography in the seventh grade. We then offer a half-year each of physical and commercial geography—in some schools—during the next five years, and usually assign these courses to whatever teacher is unfortunate enough to have a vacant hour in her regular schedule. Our high school constitutes a practically unfilled gap in geographic instruction between the seventh grade and the university. Consequently our high school graduates go out essentially ignorant of the geography of the world. Tho wholly unaware of the geographic-economic conditions under which other people live, they praise or condemn the German, French, English, Chinese, Japanese, or other people, and register their judgment by vote or influence whenever the opportunity arises. Only a few weeks ago an American business man asked me this question: "Didn't you get into China when you were in Europe?" Lack of adequate geographic training in our junior and senior high schools is a deplorable situation that may be corrected if the will to do so is present. Evidence that this serious defect is being recognized is now clear, and systematic geography is entering the better high schools. It is only a matter of time when all but the poorer high schools will be giving students an opportunity to become acquainted with the geography of the world in which they live.

The reasons for our failure to fill this gap in the past are many. The great body of our teachers obtained their educational training in a system that gave them no chance to study the subject. Most of our secondary school teachers and administrators have not had a single course in geography since they were children in the grades,

and only a very few have had a college course. This is largely thru no fault of their own. It means, however, that, being conscious of the value of subjects with which they are familiar, they are likely to be unaware of the contribution that geography may make to education. This situation is complicated by a shortage of textbooks offering a sequential treatment on a high school level, or an outline sufficiently complete that it could be used by an untrained teacher. The two Professional Papers entitled, "Geography in the Junior High School," and "An Elective Course in Senior High School Geography," published by the National Council of Geography Teachers, have given some assistance to many, and it is probable that the 1933 Geography Yearbook of the National Society for the Study of Education will be of greater assistance. Further confusion has been added in recent years by the efforts of a few enthusiasts to fuse geography with other subjects. As a study of the adjustment of man to his natural environment, geography in the elementary and secondary schools makes a distinctive contribution to the solution of social problems. For a time social science enthusiasts, recognizing the importance of geography as a basis for their work and the inadequate preparation provided by the existing curricula, undertook to absorb it. In their enthusiasm, careless thinking led them to call it a "social study," altho the distinctive qualities of both geography and social studies precluded such a view, and hence destined "fusion" to ultimate failure. Such a misconception of geography is now well on the wane and a few of the early enthusiasts are already wondering how they came to make such a mistake. It is now clear that the important contribution which geography may make to the interpretation of social problems can be secured only by geography retaining its distinctive quality and by providing for adequate geographic training.

THE FUTURE

Geography in our junior and senior high schools is still in an early stage of evolution. Since many years have been required for the older subjects to attain their status, continuity, and recognition, it is unreasonable to expect geography to attain a perfected standard at the outset. The efforts of the old established fields of knowledge to claim it, or to exclude it, is not unlike the evolutionary history of other specialized fields of knowledge that now occupy respected positions in our educational system. We need only to

view the struggles of our departments of education in their efforts to command respect. Geography is now offered in nearly all the universities and teachers colleges of America and Europe. It is the Liberal Arts Colleges and American high schools that are far behind in geographic instruction. As stated previously there is no standard course of study in geography for secondary schools available for teachers or school administrators. This is one of the educational problems awaiting solution. One thing is certain, when a course of study is prepared it should provide continuity of study in real geography. Such a geography curriculum might contain three related units: a humanized type of physical geography as the basic course, courses in the regional geography of the principal countries and their commercial relations, and a course dealing with the geography of world problems. Thoro training in a course of study of this type should contribute effectively to an understanding of and to the solution of many social problems. However, well trained teachers are required if it is to be taught so that it will function in the lives of the students. Such a requirement is the same as is now recognized for teachers of other subjects. No administrator would think of employing a mathematics teacher whose mathematical training was confined to a seventh grade study of arithmetic. A few high schools will take the lead and ultimately all except the poorer laggards will give similar opportunities to their students. This has been the case in other countries and in other subjects in our own country.

A course of study in geography well planned for continuity and content and well taught should make a distinctive contribution to the education of every high school student. It should give him a knowledge of the lands in which people live, of the underlying motive forces that cause them to think and act as they do on many questions; an appreciation of their efforts to make a living by utilizing the resources of those lands; the effect of few or dwindling resources upon a people whose increasing numbers make progressively smaller the share available for each, as in Japan and Italy, or, the effect in a land of abundant resources and relatively few people as in the United States—a contrast between realism and idealism; the effect of difficult or easy living conditions upon social, political, national, international questions; the efforts of people to produce and exchange products with others in order to supplement their own resources and satisfy human wants, and the related international treaties and outgrowing international viewpoints;

and the interdependence of people in the modern world. Geographic knowledge of sections of our own country and the problems confronting people who are endeavoring to live there, and similar knowledge of countries and people comprising other national units is essential to modern citizenship. Such knowledge should tend to lessen efforts of groups of people in special occupations, in sections of a country, or in national units, to dominate all others by political or economic methods without regard to their rights or just needs. One of the greatest handicaps to peaceful world relations is misunderstanding—ignorance of others and a lack of appreciation of their struggles. Geography may make a distinctive contribution to a realization of the fact that the prosperity of a given group depends upon the prosperity of other groups. Dr. Augustus O. Thomas, founder and first president of the World Federation of Education Associations, has stated the case for geography in no uncertain terms, and he cannot be accused of being a "special pleader." He says:

> This new geography contains the essence of education more completely than any other one subject. Aside from the mechanics of reading, if I were to select one subject which should be taught to all the children of the world as a means of bringing about understanding and co-operation, I should choose the subject of geography, and this would be chosen with a view not only to the usefulness of the subject matter and the fascination of its study but the cultural elements as well. I know of no subject which combines these several elements which education seeks to cultivate as the subject of the earth and its inhabitants, the geographic laws under which they live, how they are inter-related and how the different parts of the world help each other to live. It is the one live subject vibrating with the keenest interest imaginable.*

It is not merely a matter of subject matter but the distinctive geographic interpretation and viewpoint, and the power to utilize geographic facts that are important. We have too many people now who can simply read and repeat, see and describe, hear and reproduce, feel and react, and who think they are interpreting. No single school subject holds a mortgage on a particular body of facts. It is not so much a question as to whether a given group of facts is geography, history, economics, biology, or geology, but it is the ability to interpret their meaning and the use that is made of them that counts. Such power comes from adequate knowledge, from an understanding of viewpoint and from training in interpretation, acquired thru an intimate acquaintance with the distinctive qualities inherent in each field. When geography is given an opportunity to demonstrate its worth on a basis similar to that now afforded other subjects it will function effectively as an educative agency.

* *Education*, Vol. 52, p. 251.

A STUDY OF HOW TO TEACH THE ECONOMIC GEOGRAPHY OF ARGENTINA

LENOX E. CHASE
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The purpose of studying economic geography is to train the future business man to acquire and use a background of geographic knowledge in order to interpret the economic questions which he is to meet in the business world. As a business man, he must be alert to discover geographic material of economic value and to see its significance; he must be resourceful in using book and map tools to aid in understanding this material; he must be a rational, cautious, accurate thinker.

In order to show how economic geography may be taught to accomplish these results more fully, there is presented here a plan for the study of Argentina. It should be kept in mind that the American business man's chief interest in Argentina is to see how that country is related in trade to the United States and to the rest of the world.

A good way to proceed to an understanding of Argentina is to examine the results of its activities in world trade; therefore the following three tables of figures are presented for analysis:

ARGENTINA

Chief Imports* (1925-26-27)	*In Millions*	Chief Exports (1925-26-27)	*In Millions*
Total	$795	*Total*	$832
Textile mfrs (chiefly cotton)	182	Wheat and flour	170
Iron and Steel mfrs (incl. autos 29)	107	Corn	147
Oils (petrol)	58	Meat (preserved, frozen, chilled)	128
Lumber	40	Linseed	99
Agricultural mchry	27	Cattle hides and sheep skins	70
		Wood	67

* Commerce Yearbook, Vol. 2, 1928

TRADE WITH THE UNITED STATES*
(1925-26-27)

Chief Imports from U. S.	*In Millions*	*Chief Exports to U. S.*	*In Millions*
Total	$152	*Total*	$ 88
Automobiles	29	Linseed	31
Agricultural mchry	17	Cattle hides	17

Other mchry	12	Wool	11
Petrol products	15	Quebracho	4
Lumber	10	Sheepskins	3

* Commerce Yearbook, Vol. 1, 1928

TRADE RELATIONS WITH CHIEF COUNTRIES*
(1925-26-27)

Imports from	*In Millions*	*Exports to*	*In Millions*
United States (25%)	$195	United Kingdom	$216
United Kingdom	160	Germany	105
Germany	90	United States (8%)	71
Italy	69	Belgium	67

* Commerce Yearbook, Vol. 2, 1928

Two lessons are taught thru the presentation of these figures to the class by the teacher. (1) By actual use, the teacher has demonstrated the value of the Commerce Yearbook as an authentic source of trade information for the American business man. (2) By taking care to use a three-year-average figure, the teacher has set an example in taking pains to be an accurate thinker.

It is the teacher's place in the classroom scheme to use her time and skill to prepare the stage setting for the study by organizing and presenting such tables and by introducing such thought-provoking introductory statements as the following:

Altho there is one other South American country that has greater trade relations with the United States, there is no country in that continent whose total foreign trade with the world equals that of Argentina. In fact, the total foreign trade of Argentina is about two-thirds of the trade of the other nine South American republics combined. This is not in proportion to their comparative sizes and populations.*

With such introduction of working materials, the class begins with an analysis of Argentina's exports (Table 1). The first, and obvious conclusion is that Argentina is a great storehouse from which the world draws foods and raw materials. This introduces questions that necessitate study of maps and texts.

What are the geographic and economic conditions that make it possible for Argentina to have so much surplus food and raw material?

What are the conditions of temperature? rainfall? soil and topography? population and labor?

Class research will result in contributions of material from which the teacher can select and reshape until the class is guided to these important conclusions:

* Problem Studies in Economic Geography. New York: Prentice-Hall, Inc.

A good percentage of the land of Argentina is arable.
The chief climatic handicap is drought.
Only a small proportion of the food and raw materials are needed for domestic consumption.
There is money for scientific development of food production.
The topographic conditions encourage extensive farming and export.

Thru research, the class discovers what the chief crops are; in what comparative proportions they are raised; why these particular crops are most important; in what regions each kind predominates, and why that kind is found in that region.

As these facts are contributed and discussed, the teacher uses her wider knowledge for several purposes. (1) She produces thought-provoking questions such as, "Explain why tenant farmers are generally required to leave the land planted with alfalfa before moving on to take up new holdings," or "Why do the people of Argentina raise flax for seed and not for linen?" (2) She makes statements for emphasis such as, "Buenos Aires, the city of good air, is far enough south of the equator to be in a fairly stimulating climate." (3) She gives examples of our everyday commonplace contacts with Argentina. To illustrate, in most of our popular chain stores, a can of tinned corn beef may be obtained with a statement on the tin can that the contents came from a "frigorifico" in Buenos Aires; fruit wrappers and boxes may be found in fruit stores stamped with "Mendoza"; a pretty fountain pen in the class may be made of casein. When other examples of everyday contacts fail, the teacher can fall back on the shipping or financial news of a big city newspaper, or upon recent consular reports from a copy of the *Weekly Commerce Reports* of the Bureau of Foreign and Domestic Trade. (4) As research is made, the teacher should be able to furnish satisfactory reference books. In studying Argentina, pupils should have access to as many of these books as possible:

South American Hand Book, South American Publishing Co. Ltd., London
Whitbeck, R. H. *Economic Geography of South America.* McGraw-Hill Book Co.
Bowman, I. *South America.* Rand McNally and Co.
Jones, C. *Commerce of South America.* Ginn and Co.
Rugg, H. *Changing Civilizations in the Modern World.* Ginn and Co.
Von Engeln and Urquhart. *Story Key to Geographic Names.* D. Appleton and Co.
Pan American Union Bulletins
National Geographic Magazine
Toothaker, C. *Commercial Raw Materials,* Ginn and Co.
Smith, J. Russell. *Commerce and Industry.* Henry Holt and Co.
Whitbeck, R. H. and Finch, V. C. *Economic Geography.* McGraw-Hill Book Co.

Lippincott, I. *Economic Resources and Industries of the World.* D. Appleton and Co.
Whitbeck, R. H. *Industrial Geography.* American Book Co.
Packard, L. and Sinnott, C. *Nations as Neighbors.* The Macmillan Co.
World Almanac
Statesman's Year-Book

Again the class refers to the table of chief imports and exports. This time, analysis of the chief imports betrays the fact that Argentina does little manufacturing and apparently lacks mineral resources and lumber. Further research follows.

What are the geographic and economic conditions that cause so little manufacturing?
Does Argentina lack all kinds of important minerals and lumber?

Quite naturally the discussions of exports and imports brings into use the other two tables of trade relations. For example, "From whom do the people of Argentina buy textiles, steel manufactures, lumber, etc.?"

There is food for much thought and training in oral discussion and logical thinking in comparing the figures in these three tables, but it can be most profitably carried on only after a background of knowledge of Argentina has been gained in some such way as has been indicated in this paper.

The teacher should steer the discussion and questions so that the emphasis falls on the United States and so that constant comparisons be made to strengthen the class knowledge of conditions in our country and in Argentina. For example:

Why do we not buy Argentina's wheat?
Why do we want their wool and hides?
What conditions there (geographic and economic) make our farming machinery desirable?
Why do we buy less from Argentina than the United Kingdom and Germany do?
Why do we sell Argentina more than they do?

As a conclusion to the study, the results should be analyzed with two types of tests. The small body of facts that should have been mastered by the class in common can be tested with brief memory questions such as, "Locate the Pampa, Patagonia." Some check should be made of increased strength in individual power to reason. For this purpose, it is well to ask reasoning questions that have not been discussed but that depend upon ability to assemble knowledge already acquired. Such questions might be, "Why are the Argentine sheep sheared in October, November, December?" or "Why have the British invested over one billion dollars in Argentine railroads?"

By similar analyses of the chief imports, exports, and trade relations; and by similar research for facts to answer questions raised in such analyses, a fairly clear picture of the world trade relations of any country may be obtained. Tho it is important for a class to obtain some minimum essential facts, it should be remembered that above all, the future business man should be trained in power; power to be alert to question, power to be resourceful to find facts, and power to use the facts to think thru to a logical conclusion.

INTEREST-STIMULATING DEVICES

I. Railroad Poster Project

After telling the children that the railroads in foreign countries use beautifully painted posters in their railroad stations to advertise their scenery, I asked them to paint or make colored posters of some scene that they thought lovely. Many of them chose the Alps and some splendid work was done. We mounted the pictures on 11 x 14 cardboard and had a fine display for exhibit in our room, which we called a European railroad station.

II. Real Estate Project

Since most children are familiar with real-estate folders, posters, and literature, I have had my geography classes advertise a region as a project. Some chose to make folders using pictures and written descriptions, others chose to make posters if they were artistically inclined and others sent out a series of well-written letters describing the region. This project gives splendid correlation with English and art. It is fine in that it teaches the child to study the future of a region. We differ in that we teach and tell the truth about the region while real-estate advertisers sometimes exaggerate. It is interesting to watch these future engineers build a railroad thru a desert, or tunnel under a mountain, and you will find that they will really enjoy geography.

III. Map Relay

Each child in the first row is given a map on which he is asked to locate a city, river or mountain quickly, the teacher giving the place to be located. He then passes the paper to the child back of him, who locates the next place, and so on until all have had the map. The row which finishes first correctly is the winner. Be sure to use large maps as they are easier to grade.

IV. Flash Cards

Cards having geography pictures that are descriptive of a certain region are flashed before the pupils and they write the name of the country suggested.

STELLA ANNE CARRUTHERS

Barrington, Illinois

TRAVEL RACE

I have found this a most interesting way to review in geography, besides stimulating quick thinking.

Appoint a timekeeper. Divide the group into equal rows. When the timekeeper gives the signal to start, the teacher mentions the name of some country. The pupil at the back of Row I begins the race by stating a fact about the country mentioned. When

each child in the row has responded, and all must respond no matter how long it takes to think of a fact, the timekeeper writes the time required on the board under Row I. Row II may be given the same country as Row I. No one, however, knows what the subject is to be until the signal to start has been given. As a fact cannot be stated twice, the strictest attention is required thruout the game.

BESSIE I. ENDERS

Junior High School
Coeur d'Alene, Idaho

EDITORIAL NOTES AND NEWS

This is the sixth consecutive year of publication of the Bulletin of the Nebraska Chapter of the National Council of Geography Teachers. E. E. Lackey of the Geography Department of the University of Nebraska is the editor.

The Geography Club of Western Pennsylvania co-operating with the Pennsylvania Council of Geography Teachers met at Pittsburgh during the Christmas holidays. There were 650 in attendance at the morning program which was followed by a luncheon and a trip to the Tower of Cathedral of Learning of the University of Pittsburgh.

The Regional Conference of the World Federation of Education Associations will meet July 25-30 at Honolulu. The Conference will relate to all countries in the Pacific. The total cost of round trip carfare and steamship, including meals, Pullman and the ten days' stay on the islands, will be about $450 from Atlantic coast points, with corresponding reductions for points west. For information write to the President, Dr. Paul Monroe, 525 West 120th Street, New York City.

The second Seminar in the Caribbean, under the auspices of the Committee on Cultural Relations with Latin America, was scheduled for January 23 to February 10. Besides the shipboard programs there were to be programs in Porto Rico, the Virgin Islands, Santo Domingo, Panama, Haiti, Jamaica, and Cuba.

One of the new magazines which has recently come to our attention is the *National Aeronautic Magazine.* It is published by the National Aeronautic Association in the interest of aeronautic development, and to portray the beauty and advantages of air travel and private flying. The photographs are of unusual value to geographic teachers. Among the many illustrations of special merit may be mentioned the sky pictures of New England's shore line, Cuba's coast, the interior of Nicaragua, portions of our National Parks and of Chicago's waterfront.

The United States Geological Survey, Department of Interior, announces the publication of two new land classification maps of eastern Colorado. The maps show the areas adaptable to dry-farming, irrigation, and grazing. Accompanying the maps is textual material bearing on various physical and cultural features of these lands. These maps are the fifth in a series covering the Central Great Plains. Their cost is $2.00 or fifty cents a map. Another map announced at the usual price of ten cents is that of Acadia National Park. This park includes part of Mount Desert Island and a part of the adjoining rugged Maine coast.

Gold production in Alaska in 1931 increased by about $1,000,000. This production is almost evenly distributed between lode and placer mines. The bulk of the lode gold comes from southeastern Alaska, especially the Juneau district, whereas the bulk of placer gold comes from the Yukon region, with the Seward Peninsula region second.

The official motion picture life of George Washington, sponsored by the George Washington Bicentennial Commission and produced by Eastman Teaching Films, has many scenes taken at places where the original events actually occurred during Washington's time.

DR. D. H. DAVIS of the University of Minnesota sails from Vancouver, March 26, to make a study of the settlement of Hokkaido. He will investigate the amount and character of the past and present movement of population and the possibilities for further colonization, and will have the active co-operation of several Japanese geographers and economists.

The Department of Geography at the University of Michigan has twelve graduate students in residence this year, seven of whom are candidates for the doctor's degree and five for the master's degree.

PROFESSOR THORPE M. LANGLEY, State Teachers College, Superior, Wisconsin, is making a detailed geographical survey of a section of the Lake Superior lowland now occupied almost exclusively by Finlanders.

DR. JOHN E. ORCHARD, Columbia University, and DOROTHY J. ORCHARD are now in China continuing their studies of the industrialization of the Orient. They were fortunate in completing their work in Manchuria just before the Japanese invasion, in getting to Tientsin just after the riots, and in having unexpected opportunities to secure information in Peiping and vicinity and in Shanghai and vicinity. The results of their former field studies appeared in a number of magazines and in the book, "The Economic Position of Japan."

DR. FREDERICK J. TURNER, Professor Emeritus of Harvard University, is engaged in writing a "History of the United States, 1830 to 1850: Sections and Nation," which will relate the economic, political, and social life of the American provinces or sections in that period to geographical factors and to the interaction of these sections in Congress during that time. The chapter on "New England" was published recently in the *Huntington Library Bulletin*, Vol. I, No. 1, and its content indicates the great contribution which Dr. Turner is making to our knowledge of American history. The completed volume will be of inestimable value to every student of historical geography.

PROFESSOR GEORGE J. MILLER, State Teachers College, Mankato, Minnesota, spent last spring as guest lecturer at the University of London and in making a study of geography in the English school system, particularly the training of geography teachers. The following summer was devoted to a general survey of the economic conditions on the Continent.

DR. J. RUSSELL SMITH, Columbia University, is joint author with other economists of a pamphlet on "Long Range Planning for the Regularization of Industry." This is a report of a subcommittee of the Committee on Unemployment and Industrial Stabilization of the National Progressive Conference and appeared in a recent issue of the *New Republic*.

GEOGRAPHICAL PUBLICATIONS

Vincent T. Harlow, Editor. **Voyages of Great Pioneers.** 380 pp., including 24 illus. Oxford University Press. London. 1929

This volume, containing abridged accounts of eleven notable journeys of the exploratory period, is prefaced with a scholarly introduction which is the only distinctly original contribution of its author who claims, on this occasion, merely the office of editor. Journeys accomplished by Friar William of Rubruck, Marco Polo, Columbus, Vasco da Gama, Gilbert, Frobisher, Drake, Raleigh, Lancaster, Tasman, and Cook are considered sufficiently outstanding or otherwise significant to warrant inclusion in the work. Admission to the distinguished group of the narratives of the travels of William of Rubruck and of Marco Polo suggests that "journeys" or "travels" would be more appropriate in the title than "voyages." Each account is preceded by a brief record of the life and additional achievements of the individuals about whom the narratives are written. Some of the narratives are in diary form. The twenty-four illustrations are highly varied, those of most value being the map reproductions, especially the Contarini-Roselli map of 1506 and the map of Ortelius of 1569.

It is proposed to attempt an evaluation of the work on the bases of its proportions, accuracy, and possible usefulness. From the first standpoint it is apparent that the author has accomplished much, possibly all that could be expected in a book of less than 400 pages. It might be objected that certain narratives are included at the expense of other still more significant accounts. For example, it might be asked, "Why include the story of the first voyage of Sir William Lancaster to the East Indies (1600-1603) and neglect the voyages of Magellan or Verrazano or Cartier?" The editor at no place defends his selections, but it may be assumed from the organization of the material that he was concerned with presenting examples of varied achievements in all the larger parts of the world, rather than duplicating the accounts of somewhat similar voyages, no matter how epoch-making such voyages are believed by some to have been. Thus, land journeys to the East are illustrated by the narratives of Marco Polo and of William of Rubruck and the first voyage of da Gama suffices for the rounding of Africa by sea. Sixteenth century interest in the western hemisphere is reflected in Raleigh's "Discoverie of the Large, Rich, and Bewtiful Empyre of Guiana." Dutch and English conflict in the East Indies is suggested by inclusion of the voyage of Lancaster; circumnavigation of the earth by an account of Drake's exploits; the search for the Northwest Passage is brought to mind by the voyages of Frobisher and Gilbert; while discoveries in Australasia are left to the accounts of Tasman and Cook.

One can scarcely doubt the accuracy of a work of this description, compiled as it is from available material and differing from the usual sources only with regard to omissions of parts of them. Comparison was made with certain of the complete narrations and no discrepancies of fact were detected.

The usefulness of the book is limited by the character of the material, by the preservation of obsolete forms of writing and spelling, and by omissions from the narratives. Students below college level would probably find the material difficult of comprehension, especially the introductory chapter. The narratives of Raleigh, Gilbert, and Frobisher, owing to the use of sixteenth century writing and spelling, furnish difficult reading even for mature students. On the other hand, the advanced or professional student in geography or history would find the omissions, necessary to accommodate the narratives to the modest scope of the volume, none the less serious. Columbus' first voyage only is treated and that with deletion of fully one-half the text. Da Gama's trip by sea

to the Orient is terminated at Calicut, while Drake is left on his "round-the-world voyage" at Vancouver; in both these instances, however, the author, in an added paragraph, indicates the general route and events of the return journey. Presumably, therefore, the book will be primarily useful to the general cultured reader and to college students in introductory courses in history and historical geography; for which purposes, indeed, there is probably no better recent book of equal scope.

RALPH H. BROWN

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Morton C. Kahn. **Djuka.** 233 pp., 65 illus. Viking Press. New York, 1931

This book, a socio-anthropological study of the Dutch Guiana Negro (Djuka), is meritorious for its rigid adherence to descriptive elements of the subject, and its corresponding avoidance of the author's interpretation of questions possibly controversial in character. One reads a straightforward, intimate account of the life and doings of these forest folk who have occupied since escape from slavery an environment seemingly well suited to them. The book is clearly and interestingly written and is replete with illustrations, many of which have high quality, tho the greater number are views of typical folk and artifacts. The chapters: The Black Rebellion, Upriver, The Jungle Clearing, Food in the Jungle, and The Organization of Life, contribute largely to the complete areal scene of the Guiana littoral and river country. The interesting chapters entitled: The Dance, The Game Trail, Marriage and the Family, Medicine and Magic, Djuka Talk, West African Survivals, and Primitive Art, lack, obviously, direct application.

While at no one place is the cultural pattern or natural setting comprehensively portrayed, these may at least in part be pieced together from various sections of the book. It is made clear that each of the six tribes, of which the Saramaccaner is the most populous (14,000), is organized on a village or jungle-clearing basis, the villages being strung along the rivers for a hundred miles or more inland. Gansee, the largest village, is sufficiently urban to have a distinctive street pattern; the smaller ones, such as Nu, being unorganized groups of ten or a dozen huts. Villages are generally located a half-mile from river banks, the approach to a village being heralded by numbers of coracles moored to the banks. Provision grounds, wrested from the jungle, are used chiefly for growing bitter cassava, yams, and peanuts, and lie behind the village as much as five miles distant. The cultural scene, as painted by the author, is primarily a static one, changes in it resulting from the arrival of outsiders, such as "balata bleeders," or possibly whites, the activities of the harvest or river fishing, and the journeys to Paramaribo for the exchange of commodities.

Among other things, it is emphasized that transportation is dependent not only upon the rivers, but upon the Djuka as well, thru whose skill in use of water-craft the treacherous rivers are alone made useful; that, not only animal but insect life is at a minimum, and that there is little commercial intercourse with the Indians to whom the Djuka felt superior. In this attitude, the Djuka is regarded by the author as being justified. It also appears that he does not consider himself inferior to the whites with whom he comes in contact at the trading posts and coastal cities.

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